

CLAIMS:

1. A metallic component for use under thermal and mechanical stress which leads to a risk of thermally influenced wrinkling (rumpling), having a coating of ceramic material which covers its surface at least partially, characterized in that the thickness of the ceramic coating is less than 50 μm .
2. The metallic component according to claim 1, characterized in that the coated metallic surface already has an oxidic coating.
3. The metallic component according to either of claims 1 or 2, characterized in that the coated surface consists of an aluminum-containing metallic oxidation protection coating.
4. The metallic component according to any of claims 1 to 3, characterized in that the thickness of the ceramic coating is less than 30 μm , especially less than 20 μm .
5. The metallic component according to any of claims 1 to 4, characterized in that the ceramic coating consists of an oxidic ceramic material.
6. The metallic component according to any of claims 1 to 5, characterized in that the thickness of the ceramic coating is at least 5 μm , especially at least 10 μm .
7. A process for the preparation of a metallic component according to any of claims 1 to 6, characterized in that its surface is provided with a thin ceramic coating having a thickness of less than 50 μm .
8. The process according to claim 7, characterized in that said coating is produced by electron beam physical vapor deposition (EB-PVD) or air plasma spraying (APS).
9. The process according to claim 7, characterized in that said coating is produced by chemical vapor deposition (CVD), electrophoresis followed by

microwave sintering, or dip coating with ceramic precursors followed by sintering.

10. Use of a ceramic coating according to any of claims 1 to 6 for preventing thermally influenced wrinkling (rumpling) in metallic components.

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CLAIMS:

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1. Use of a ceramic coating having a thickness of less than 50 μm on a metallic component for preventing thermally influenced wrinkling (rumpling) in metallic components.
2. A metallic component of rotors and stators of turbo engines for use under thermal and mechanical stress which leads to a risk of thermally influenced wrinkling (rumpling), having a coating of ceramic material which covers its surface at least partially, characterized in that the thickness of the coating is less than 30 μm and at least 5 μm .
3. The metallic component according to claim 2, characterized in that the coated metallic surface already has an oxidic coating.
4. The metallic component according to either of claims 2 or 3, characterized in that the coated surface consists of an aluminum-containing metallic oxidation protection coating.
5. The metallic component according to any of claims 2 to 4, characterized in that the thickness of the ceramic coating is less than 20 μm .
6. The metallic component according to any of claims 2 to 5, characterized in that the ceramic coating consists of an oxidic ceramic material.
7. The metallic component according to any of claims 2 to 6, characterized in that the thickness of the ceramic coating is at least 10 μm .
8. A process for the preparation of a metallic component according to any of claims 2 to 7, characterized in that its surface is provided with a thin ceramic coating having a thickness of less than 30 μm and at least 5 μm .

9. The process according to claim 8, characterized in that said coating is produced by electron beam physical vapor deposition (EB-PVD) or air plasma spraying (APS).
10. The process according to claim 8, characterized in that said coating is produced by chemical vapor deposition (CVD), electrophoresis followed by microwave sintering, or dip coating with ceramic precursors followed by sintering.